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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/799,193	03/12/2004	Hiromitsu Yamaguchi	1232-5326	8180

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EXAMINER	
GOLDBERG, BRIAN J	

ART UNIT	PAPER NUMBER
2861	

DATE MAILED: 01/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/799,193	YAMAGUCHI ET AL.	
	Examiner	Art Unit	
	Brian Goldberg	2861	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 March 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *10/13/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 1-17 are objected to because of the following informalities:

2. Claim 1 recites the limitations "the number of time-division drive blocks" in line 8, "the set of print elements" in lines 20-21, and "the same time-division drive timing" in line 22. There is insufficient antecedent basis for these limitations in the claim.

3. Claim 2 recites the limitation "the number of sets of print elements" in line 25. There is insufficient antecedent basis for this limitation in the claim.

4. Regarding claim 6, "the printing apparatus; wherein..." is not proper. Consider deleting "the printing apparatus;". Claim 6 also recites the limitations "the number of time-division drive blocks" in lines 21-22, "the plurality of drive blocks" in lines 27-1, and "the number of sets" in line 6. There is insufficient antecedent basis for these limitations in the claim.

5. Claim 11 recites the limitations "the number of time-division drive blocks" in lines 7-8, "the plurality of drive blocks" in lines 13-14, and "the number of sets of print elements" in line 19. There is insufficient antecedent basis for these limitations in the claim.

6. Claim 16 recites the limitations "the number of time-division drive blocks" in line 18 and "the set of print elements" in line 3. There is insufficient antecedent basis for these limitations in the claim.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Yano et al. (US 6352327).

9. Regarding claim 1, Yano et al. disclose "moving the print head (5 of Fig 2) and a print medium (1 of Fig 1) relative to each other in the scan direction (A and B of Fig 1) that crosses a direction of the columns of the print elements; and dividing the print elements into the plurality of drive blocks and activating the drive blocks of print elements on a time-division basis to form an image on the print medium (col 7 ln 54-66); wherein drive timings with which to activate the set of print elements aligned in the scan direction are the same time-division drive timing (col 6 ln 61-65)."

10. Regarding claim 2, Yano et al. disclose "the number of sets of print elements aligned in the scan direction is equal to an integer times the number of drive blocks (col 9 ln 47-54)."

11. Regarding claim 3, Yano et al. disclose "the plurality of print elements in the print head are arranged in an entire widthwise printable range of the print medium (col 14 ln 32-38)."

12. Regarding claim 4, Yano et al. disclose "the plurality of print elements in the print head are ink jet print elements that can be activated to eject ink from nozzles (col 2 ln 66-67, col 6 ln 4-6)."

13. Regarding claim 5, Yano et al. disclose "the ink jet print elements have electrothermal transducers that generate energy for ejecting ink (col 13 ln 49-53)."

14. Regarding claim 6, Yano et al. disclose "the print head (5 of Fig 2) has a plurality of arrayed small heads (5a-5d of Fig 1), the small heads each have a plurality of print elements arranged in columns (see Fig 3, N1, Ni, N64), the print elements are equal in number to an integer times the number of time-division drive blocks (col 9 ln 47-54); the print head and a print medium are moved relative to each other in a scan direction that crosses a direction of the columns of the print elements (A and B of Fig 1); the print elements are divided into the plurality of drive blocks and activated in the drive blocks on a time-division basis to form an image on the print medium (col 7 ln 54-66); at least two print elements In adjoining small heads are aligned in the scan direction (see Fig 1, col 6 ln 52-61); and the number of sets or pairs of print elements in the adjoining small heads aligned in the scan direction is equal to an integer times the number of time-division drive blocks (col 7 ln 62-66, col 9 ln 47-54)."

15. Regarding claim 7, Yano et al. disclose "the print elements aligned in the scan direction are allocated to the same drive block for activation (col 7 ln 54-66, col 6 ln 61-65)."

16. Regarding claim 8, Yano et al. disclose "the plurality of print elements in the print head are arranged in an entire widthwise printable range of the print medium (col 14 ln 32-38)."

17. Regarding claim 9, Yano et al. disclose "the plurality of print elements in the print head are ink jet print elements that can be activated to eject ink from nozzles (col 2 ln 66-67, col 6 ln 4-6)."

18. Regarding claim 10, Yano et al. disclose "the ink jet print elements have electrothermal transducers that generate energy for ejecting ink (col 13 ln 49-53)."

19. Regarding claim 11, Yano et al. disclose "a plurality of arrayed small heads (5a-5d of Fig 1), the small heads each having a plurality of print elements arranged in columns (see Fig 3, N1, Ni, N64), the print elements being equal in number to an integer times the number of time-division drive blocks (col 9 ln 47-54); wherein the print head and a print medium are moved relative to each other in a scan direction that crosses a direction of the columns of the print elements (A and B of Fig 1); wherein the print elements are divided into the plurality of drive blocks and activated in the drive blocks on a time-division basis to form an image on the print medium (col 7 ln 54-66); wherein at least two print elements in adjoining small heads are aligned in the scan direction (see Fig 1, col 6 ln 52-61); wherein the number of sets of print elements in the adjoining small heads aligned in the scan direction is equal to an integer times the number of drive blocks (col 7 ln 62-66, col 9 ln 47-54)."

20. Regarding claim 12, Yano et al. disclose "the print elements aligned in the scan direction are allocated to the same drive block for activation (col 7 ln 54-66, col 6 ln 61-65)."

21. Regarding claim 13, Yano et al. disclose "the plurality of print elements in the print head are arranged in an entire widthwise printable range of the print medium (col 14 ln 32-38)."

22. Regarding claim 14, Yano et al. disclose "the plurality of print elements in the print head are ink jet print elements that can be activated to eject ink from nozzles (col 2 ln 66-67, col 6 ln 4-6)."

23. Regarding claim 15, Yano et al. disclose "the ink jet print elements have electrothermal transducers that generate energy for ejecting ink (col 13 ln 49-53)."

24. Regarding claim 16, Yano et al. disclose "moving the print head (5 of Fig 2) and a print medium (1 of Fig 1) relative to each other in the scan direction (A and B of Fig 1) that crosses a direction of the columns of the print elements; dividing the print elements into the plurality of drive blocks and activating the drive blocks of print elements on a time-division basis to form an image on the print medium (col 7 ln 54-66); and activating the set of print elements aligned in the scan direction at the same time-division drive timing (col 6 ln 61-65)."

25. Regarding claim 17, Yano et al. disclose "a storage media readable by a computer and storing the program of claim 16 (20b,c of Fig 2, col 6 ln 30-34, col 15 ln 30-37)."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Goldberg whose telephone number is 571-272-2728. The examiner can normally be reached on Monday through Friday, 9AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Talbott can be reached on 571-272-1934. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BJG

January 18, 2006

Thinh Nguyen
Primary Examiner
Technology Center 2800